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Environment Canada Environnement

Regional data report (Canada, Environmental P
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ENVIRONMENT CANADA
CONSERVATION AND PROTECTION
ENVIRONMENTAL PROTECTION
PACIFIC AND YUKON REGION

BENTHIC SEDIMENT CHEMISTRY
WEST COAST SURVEY
PHASE I
JUNE 1987
REGIONAL DATA REPORT DR-90-04

BY

D.E. Brothers

June 1990

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E.P. West Coast Survey Phase I -
June 1987 |
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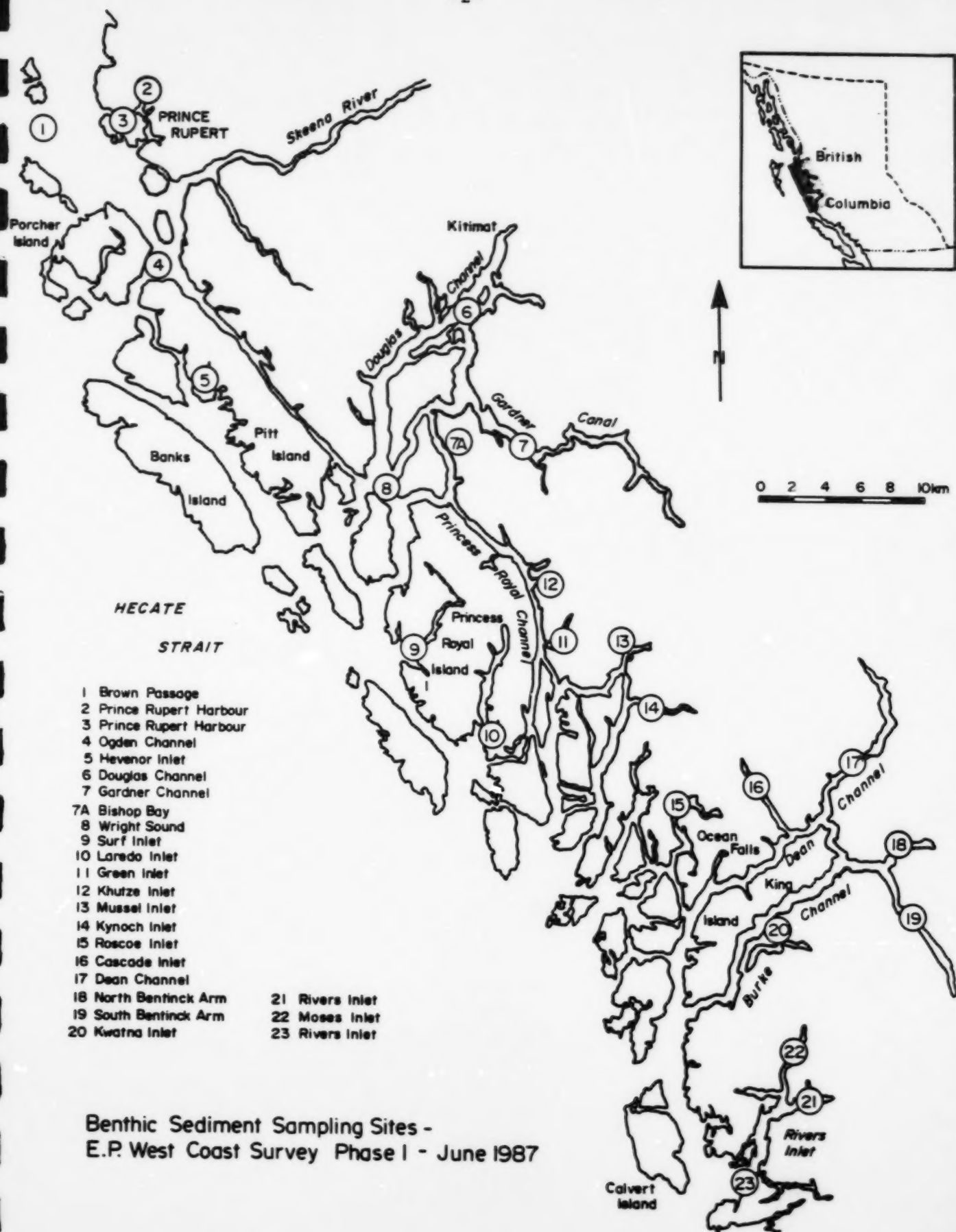
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1.0 INTRODUCTION

In June 1987 phase I of a benthic sediment chemistry study was conducted on the west coast of British Columbia between Cape Caution and Prince Rupert Harbour using the survey vessel CSS Vector. The study was initiated at the request of the Regional Ocean Dumping Advisory Committee (RODAC) and was designed to examine the "background" concentrations of various metals in inlets and water ways removed from anthropogenic inputs. Sample site locations are identified in Figure 1.

Phase II of this study is scheduled for 1988 and will include benthic sediment chemistry from locations between Jervis Inlet and Cape Caution.



2.0 MATERIALS AND METHODS

Grab samples were taken using a Smith McIntyre sampler; core samples using a 2 meter Benthos gravity corer.

Three grabs were taken at each station. Upon retrieval, water was siphoned from the sediment surface, if necessary. Three samples, 0 cm to 5 cm sediment depth, were taken from the first grab; two samples, one 0 cm to 5 cm, the other 0 cm to 2 cm, were taken from the second grab; and one sample, 0 cm to 5 cm, was taken from the third.

Three cores were also taken at each station. The core was extruded into a plastic trough, held at a gentle incline and washed to remove the outer disturbed layer, and sampled at the following depths: 30-40 cm, 60-70 cm and 90-100 cm.

Cadmium, mercury, lead, copper and zinc concentrations are presented in the tables, along with the mean and standard deviation.

All analyses were conducted by the Conservation and Protection Laboratories in West Vancouver. The raw data represents a single analysis for each sample after drying and homogenizing. Cu, Pb, and Zn were analysed by Inductively Coupled Argon Plasma Atomic Emission (ICAP-AE), Cd using Graphite Furnace Atomic Absorption (GFAA), and Hg using flameless AA.

The accuracy data for each lab submission are given in Appendix I. The raw data printouts, giving the complete ICAP semi-quantitative scan and particle size data, are included in Appendix II, and can be located by matching the sample and lab submission numbers given on the data tables. Precision data for the lab submissions are provided on the data tables, and represent analyses of separate aliquots of dried, homogenized sediments from the sample bag.

TABLE 1

BROWN PASSAGE - STATION 1METALS - LAB # 880130
PARTICLE SIZE - LAB #880910

DATE SAMPLED: JUNE 28, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
191	75 *	0-5	.064	.34	ND(8)	18.3	56.9
191	76	0-5	.064	.33	ND(8)	19.2	58.2
191	77	0-5	.069	.40	ND(8)	18.8	56.1
192	78 *	0-2	.061	.43	ND(8)	17.8	58.3
192	79	0-5	.062	.45	ND(8)	17.5	58.0
189	80	0-5	.060	.27	ND(8)	18.8	56.1
MEAN			.063	.37		18.4	57.3
STD DEV			.003	.07		.7	1.0
191	85 *	30-40	.049	.63	ND(8)	19.0	59.2
192	88	30-40	.051	.53	ND(8)	19.1	54.7
189	91	30-40	.048	.62	ND(8)	19.3	56.0
MEAN			.049	.59		19.1	56.6
STD DEV			.002	.06		.2	2.3
191	86 *	60-70	.048	.44	ND(8)	19.9	59.4
192	89	60-70	.045	.55	ND(8)	21.1	59.4
189	92	60-70	.048	.55	ND(8)	21.7	58.9
MEAN			.047	.51		20.9	59.2
STD DEV			.002	.06		.9	.3
191	87 *	90-100	.053	.44	ND(8)	23.3	63.3
192	90	90-100	.043	.46	ND(8)	17.0	53.0
189	93	90-100	.046	.52	ND(8)	20.9	61.3
MEAN			.047	.47		20.4	59.2
STD DEV			.005	.04		3.2	5.5

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
80	.060	.27	ND(8)	18.8	56.1
81	.056	.30	ND(8)	18.3	59.2
82	.058	.28	ND(8)	20.3	53.8
83	.059	.25	ND(8)	18.3	53.5
84	.059	.29	ND(8)	17.7	53.9
MEAN	.058	.28		18.7	55.3
STD DEV	.002	.02		1.0	2.4

NOTE: numbers in bracket are limits of detection.

(cf:SCPBRDP1)

ND - not detected

* denotes particle size data in appendix

TABLE 2

PRINCE RUPERT HARBOUR - STATION 2

METALS - LAB # 880904

PARTICLE SIZE - LAB # 880904

DATE SAMPLED: JUNE 28, 1987.

			UG/G DRY WEIGHT				
DEPTH SAMPLE	SEDIMENT		Hg	Cd	Pb	Cu	Zn
(m)	DEPTH (cm)						
52	17*	0-5	.120	.20	21.0	68.5	141.0
52	18	0-5	.120	.17	19.0	69.0	140.0
52	19	0-5	.120	.20	17.0	70.2	145.0
53	20*	0-2	.120	.20	28.0	74.2	151.0
53	21	0-5	.120	.20	25.0	69.6	146.0
52	22	0-5	.120	.20	20.0	64.6	140.0
MEAN			.120	.20	21.7	69.4	143.8
STD DEV			.000	.01	4.1	3.1	4.4
52	23*	30-40	.064	.20	ND(8)	46.8	123.0
53	30	30-40	.051	.10	9.0	43.8	118.0
52	33	30-40	.069	.10	8.0	45.8	122.0
MEAN			.061	.13		45.5	121.0
STD DEV			.009	.06		1.5	2.6
52	24*	60-70	.048	.10	ND(8)	45.5	125.0
53	31	60-70	.047	.20	ND(8)	44.2	122.0
52	34	60-70	.047	.18	ND(8)	45.9	124.0
MEAN			.047	.16		45.2	123.7
STD DEV			.001	.05		.3	1.5
52	29*	90-100	.057	.10	10.0	44.5	125.0
53	32	90-100	.042	.10	ND(8)	44.3	124.0
52	35	90-100	.048	.18	10.0	43.7	121.0
MEAN			.049	.13		44.2	123.3
STD DEV			.008	.05		.4	2.1

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
24	.048	.10	ND(8)	45.5	125.0
25	.051	.20	10.0	44.0	123.0
26	.049	.20	ND(8)	43.7	122.0
27	.048	.10	ND(8)	44.3	121.0
28	.049	.20	10.0	44.9	124.0
MEAN	.049	.16		44.5	123.0
STD DEV	.001	.05		.7	1.6

NOTE: numbers in brackets are limits of detection.

(cf:SCPPRHR2)

ND - not detected

* denotes particle size data in appendix.

TABLE 3

PRINCE RUPERT HARBOUR - STATION 3

DATE SAMPLED: JUNE 28, 1987.

METALS (Except Cd: 94-100) LAB #880130
 PARTICLE SIZE (94 - 100) LAB #880910
 METALS (Cd: 94-100) LAB # 890460
 METALS (1-16) LAB # 880904
 PARTICLE SIZE (1-16) Lab # 880904

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
80	94	0-5	.110	.20	ND(8)	96.1	140.0
80	99*	0-5	.092	.26	ND(8)	93.0	130.0
80	100	0-5	.110	.25	ND(8)	90.8	136.0
68	1*	0-2	.081	.20	20.0	90.2	144.0
68	2	0-5	.081	.19	20.0	91.3	142.0
85	3	0-5	.077	.18	20.0	92.4	142.0
MEAN			.092	.21		92.3	139.0
STD DEV			.015	.03		2.1	5.2
	4*	30-40	.12	.10	20.0	54.4	128.0
	7	30-40	.07	.10	10.0	53.3	117.0
	10	30-40	.07	.17	10.0	48.8	121.0
MEAN			.09	.12	13.3	52.2	122.0
STD DEV			.03	.04	5.8	3.0	5.6
	5*	60-70	.043	.20	ND(8)	42.6	112.0
	8	60-70	.041	.10	20.0	43.8	113.0
	15	60-70	.043	.10	ND(8)	44.1	114.0
MEAN			.042	.13		43.5	113.0
STD DEV			.001	.06		.8	1.0
	6*	90-100	.036	.18	ND(8)	42.3	113.0
	9	90-100	.045	.20	ND(8)	43.6	111.0
	16	90-100	.044	.10	ND(8)	44.2	115.0
MEAN			.042	.16		43.4	113.0
STD DEV			.005	.05		1.0	2.0

TABLE 3 (cont'd)

PRINCE RUPERT HARBOUR - STATION 3 (cont'd)

DATE SAMPLED: June 28, 1987

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
94	.11	.20	ND(8)	96.1	140.0
95	.10	.22	10.0	92.8	139.0
96	.076	.22	8.0	94.8	139.0
97	.085	.23	9.0	94.9	136.0
98	.100	.24	10.0	91.7	137.6
MEAN	.094	.22		94.1	137.6
STD DEV	.014	.01		1.8	2.5
10	.070	.17		48.8	121.0
11	.070	.10	9.0	49.4	122.0
12	.074	.10	8.0	50.1	121.0
13	.077	.10	ND(8)	51.2	124.0
14	.073	.10	10.0	49.0	122.0
MEAN	.073	.11		49.7	122.0
STD DEV	.003	.03		1	1.2

NOTE: numbers in brackets are limits of detection. (cf: SCPPRHR3)

ND - not detected

*denotes particle size data in appendix

TABLE 4

-8-

OGDEN CHANNEL - STATION 4

METALS LAB # 880130
PARTICLE SIZE LAB # 880910

DATE SAMPLED: JUNE 28, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
149	52	0-5	.075	.10	ND(8)	48.6	106.0
149	57*	0-5	.084	.10	ND(8)	48.0	107.0
149	58	0-5	.077	.10	ND(8)	47.3	103.0
149	59*	0-2	.078	.10	ND(8)	47.1	104.0
149	60	0-5	.076	.10	ND(8)	48.1	105.0
149	61	0-5	.076	.10	ND(8)	47.4	103.0
MEAN			.078	.10		47.8	104.7
STD DEV			.003	.00		.6	1.6
149	62*	30-40	.074	.10	ND(8)	45.6	102.0
149	65	30-40	.081	.10	ND(8)	48.1	104.0
149	72	30-40	.074	.20	ND(8)	42.0	112.0
MEAN			.076	.13		45.2	106.0
STD DEV			.004	.06		3.1	5.3
149	63*	60-70	.076	.10	ND(8)	50.0	110.0
149	66	60-70	.072	.20	ND(8)	49.1	107.0
149	73	60-70	.074	.22	ND(8)	49.2	102.0
MEAN			.074	.17		49.4	106.3
STD DEV			.002	.06		.5	4.0
149	64*	90-100	.072	.10	ND(8)	50.1	108.0
149	71	90-100	.061	.20	ND(8)	46.6	103.0
149	74	90-100	.078	.22	ND(8)	50.1	107.0
MEAN			.070	.17		48.9	106.0
STD DEV			.009	.06		2.0	2.6

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
52	.075	.10	ND(8)	48.6	106.0
53	.078	.20	ND(8)	47.6	105.0
54	.080	.10	ND(8)	47.6	106.0
55	.079	.10	ND(8)	45.2	100.0
56	.076	.20	ND(8)	47.9	103.0
MEAN	.078	.14		47.4	104.0
STD DEV	.002	.05		1.3	2.5
66	.072	.20	ND(8)	49.1	107.0
67	.074	.19	ND(8)	50.0	107.0
68	.069	.19	ND(8)	48.4	104.0
69	.074	.19	ND(8)	48.3	106.0
70	.071	.17	ND(8)	48.7	106.0
MEAN	.072	.19		48.9	106.0
STD DEV	.002	.01		.7	1.2

NOTE: numbers in brackets are limits of detection.

(cf:SCFOGDC4)

ND - not detected

* denotes particle size data in appendix.

TABLE 5

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HEVENOR INLET - STATION 5

METALS (Except Cd)

Lab # 880130

DATE SAMPLED: JUNE 27, 1987.

METALS (Cd only)

Lab # 890460

PARTICLE SIZE

Lab # 890910

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
82	33 (121)+*	0-5	.110	1.90	ND(8)	33.5	81.4
82	34 (122)+	0-5	.110	2.00	ND(8)	34.3	83.2
82	35 (123)+	0-5	.120	1.80	ND(8)	34.3	82.3
82	36 (124)+*	0-2	.110	3.10	ND(8)	35.1	83.3
82	37 (125)+	0-5	.100	2.06	ND(8)	33.9	79.5
82	38 (126)+	0-5	.098	2.28	ND(8)	32.6	80.0
MEAN			.108	2.19		34.0	81.6
STD DEV			.008	.47		.8	1.6
82	43 (131)+*	30-40	.081	3.40	ND(8)	31.5	78.0
82	46 (134)+	30-40	.090	3.60	ND(8)	30.8	80.3
82	49 (137)+	30-40	.081	3.30	ND(8)	30.1	74.2
MEAN			.084	3.43		30.8	77.5
STD DEV			.005	.15		.7	3.1
82	44 (132)+*	60-70	.087	2.20	ND(8)	31.6	75.2
82	47 (135)+	60-70	.073	1.00	ND(8)	29.1	82.2
82	50 (138)+	60-70	.078	2.60	ND(8)	32.6	75.5
MEAN			.079	1.93		31.1	77.6
STD DEV			.007	.83		1.8	4.0
82	45 (133)+*	90-100	.073	3.20	ND(8)	31.8	78.5
82	48 (136)+	90-100	.064	3.20	ND(8)	27.8	69.5
82	51	90-100	.061	2.89	ND(8)	30.2	73.3
MEAN			.066	3.10		29.9	73.8
STD DEV			.006	.18		2.0	4.5

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
38 (126)+	.098	2.30	ND(8)	32.6	80.0
39 (127)+	.098	2.20	ND(8)	33.9	79.5
40 (128)+	.110	2.10	ND(8)	34.1	80.6
41 (129)+	.110	2.10	ND(8)	34.7	82.2
42 (130)+	.100	2.20	ND(8)	33.8	80.7
MEAN	.103	2.18		33.8	80.6
STD DEV	.006	.08		.8	1.0

NOTE: numbers in brackets are limits of detection.

(cf: SCPHEV15)

+ to find Cd data in appendix, use number marked as (XXX)+

* denotes particle size data in appendix.

ND - not detected

TABLE 6

-10-

DOUGLAS CHANNEL - STATION 6

METALS LAB # 880906

PARTICLE SIZE LAB # 880906

DATE SAMPLED: JULY 2, 1987.

DEPTH (m)	SAMPLE	STATION DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
369	25*	0-5	.047	.23	ND(8)	69.5	93.6
369	26	0-5	.046	.21	25	68.8	98.3
369	27	0-5	.055	.58	18	66.4	104.0
370	28	0-5	.054	.28	10	64.7	115.0
370	29*	0-2	.063	.57	19	61.3	107.0
378	30	0-5	.035	.54	10	63.4	107.0
MEAN			.050	.40		65.7	104.2
STD DEV			.010	.18		3.2	7.5
369	31*	30-40	.049	.66	20	59.5	118.0
370	34	30-40	.034	.72	10	58.8	117.0
378	37	30-40	.038	.57	10	60.8	103.0
MEAN			.040	.65	13	59.7	112.7
STD DEV			.008	.06	7	.9	10.6
369	32*	60-70	.029	.68	16	56.5	122.0
370	35	60-70	.028	.76	ND(8)	56.2	114.0
378	38	60-70	.031	.25	10	56.9	114.0
MEAN			.029	.56		56.5	116.7
STD DEV			.001	.30		.3	5.7
369	33*	90-100	.025	.74	ND(8)	56.3	121.0
370	36	90-100	.025	.46	ND(8)	55.7	117.0
378	39	90-100	.024	.75	9	56.5	114.0
MEAN			.025	.65		56.2	117.3
STD DEV			.001	.01		.1	4.9

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
28	.054	.28	10	64.7	115.0
60	.052	.25	10	62.5	97.2
61	.055	.25	20	62.6	98.4
62	.058	.26	10	63.8	100.0
MEAN	.055	.26	13	63.4	102.7
STD DEV	.003	.01	5	1.0	8.3
38	.031	.25	10	56.9	114.0
63	.048	.23	10	57.9	116.0
64	.046	.20	10	56.5	113.0
65	.044	.21	10	57.3	113.0
MEAN	.042	.22	10	57.2	114.0
STD DEV	.008	.02	0	.6	1.4

NOTE: numbers in brackets are limits of detection.

(cf:SCPDOUC6)

ND - not detected

* denotes particle size data in appendix.

TABLE 7

-11-

GARDNER CHANNEL - STATION 7

METALS LAB # 880906
PARTICLE SIZE LAB # 880906

DATE SAMPLED: JULY 2, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
210	10*	0-5	.051	.18	ND(8)	79.9	138
210	11	0-5	.053	.18	ND(8)	83.0	142
210	12	0-5	.051	.17	ND(8)	82.0	147
207	13	0-5	.051	.18	ND(8)	84.7	146
207	14*	0-2	.056	.18	ND(8)	80.9	140
207	15	0-5	.051	.17	ND(8)	81.7	142
MEAN			.052	.18		82.0	143
STD DEV			.002	.01		1.7	3
210	16*	30-40	.028	.27	ND(8)	80.7	145.0
210	19	30-40	.028	.20	ND(8)	82.4	148.0
207	22	30-40	.026	.10	ND(8)	82.8	137.0
MEAN			.027	.19		82.0	143.3
STD DEV			.001	.09		1.5	5.7
210	17*	60-70	.021	.20	ND(8)	86.3	151.0
210	20	60-70	.021	.17	ND(8)	87.5	157.0
207	23	60-70	.022	.20	ND(8)	84.5	143.0
MEAN			.021	.19		86.1	150.3
STD DEV			.001	.02		1.3	5.7
210	18*	90-100	.020	.25	ND(8)	85.0	151.0
210	21	90-100	.017	.17	ND(8)	85.1	151.0
207	24	90-100	.019	.23	ND(8)	82.0	133.0
MEAN			.019	.22		84.0	145
STD DEV			.001	.04		2.1	12.7

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
18	.020	.25	ND(8)	85.0	151.0
57	.024	.23	10.0	80.8	141.0
58	.023	.24	17.0	78.0	138.0
59	.024	.21	17.0	81.3	143.0
MEAN	.023	.23	14.7	81.3	143.3
STD DEV	.002	.02	4.0	2.9	5.6

NOTE: numbers in brackets are limits of detection. (cf: SCPGARC7)

ND - not detected

* denotes particle size data in appendix.

TABLE 8

-12-

BISHOP BAY - STATION 7A

METALS - LAB # 880906
PARTICLE SIZE - LAB # 880906

DATE SAMPLED: JULY 2, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
213	1*	0-5	.053	.34	ND(8)	21.3	80.9
213	2	0-5	.043	.36	ND(8)	18.9	83.9
213	3	0-5	.046	.27	ND(8)	22.5	82.9
213	4	0-5	.030	.20	ND(8)	16.5	74.3
213	5*	0-2	.038	.24	ND(8)	21.4	77.9
214	6	0-5	.034	.41	ND(8)	17.0	90.3
MEAN			.041	.30		19.6	81.7
STD DEV			.008	.08		2.5	5.5
213	7*	30-40	.010	.27	ND(8)	18.8	70.1
213	8*	60-70	.009	.50	ND(8)	12.0	60.0
214	9*	90-100	.019	.19	ND(8)	48.4	95.8

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
8	.009	.50	ND(8)	12.0	60.0
54	.010	.33	ND(8)	10.0	62.8
55	.010	.30	ND(8)	11.0	59.5
56	.010	.31	ND(8)	10.0	55.7
MEAN	.010	.36		10.8	59.5
STD DEV	.001	.09		1.0	2.9

NOTE: numbers in brackets are limits of detection. (cf:SCP81B7A)

ND - not detected

* denotes particle size data in appendix.

TABLE 9

-13-

WRIGHT SOUND - STATION 8

METALS (Except Cd)

Lab # 880525

METALS (Cd only: 72-77)

Lab # 890460

DATE SAMPLED: JUNE 27, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
522	72*(112)+	0-5	.085	.60	ND(8)	34.4	76.9
522	73 (113)+	0-5	.090	.55	ND(8)	33.9	74.2
522	74 (114)+	0-5	.110	.66	ND(8)	41.0	76.8
522	75*(116)+	0-5	.130	.39	ND(8)	33.6	75.9
522	76 (117)+	0-2	.100	.37	ND(8)	34.8	80.9
528	77 (118)+	0-5	.078	.41	ND(8)	30.9	73.9
MEAN			.099	.50		34.8	76.4
STD DEV			.019	.12		3.3	2.5
522	78*	30-40	.075	.67	ND(8)	31.9	74.3
522	85	30-40	.057	.75	ND(8)	33.0	75.2
528	88	30-40	.067	.53	ND(8)	28.6	71.7
MEAN			.066	.65		31.2	73.7
STD DEV			.009	.11		2.3	1.8
522	79*	60-70	.030	.65	ND(8)	31.9	76.2
522	86	60-70	.095	.75	ND(8)	32.6	76.4
528	89	60-70	.040	.71	ND(8)	29.4	75.4
MEAN			.055	.70		31.3	76.0
STD DEV			.035	.05		1.7	.5
522	80*	90-100	.031	.74	ND(8)	28.0	75.0
522	87	90-100	.071	.83	ND(8)	33.9	80.0
528	90	90-100	.046	.87	ND(8)	27.5	73.8
MEAN			.049	.81		29.8	76.3
STD DEV			.020	.07		3.6	3.3

PRECISION DATA:

SAMPLE	Hg	Cd	Pb	Cu	Zn
80	.031	.74	ND(8)	28.0	75.0
81	.032	.68	ND(8)	27.8	75.3
82	.032	.67	ND(8)	26.8	73.5
83	.035	.76	ND(8)	30.4	78.2
84	.029	.72	ND(8)	26.7	72.6
MEAN	.032	.71		27.9	74.9
STD DEV	.002	.04		1.5	2.1

NOTE: numbers in brackets are limits of detection. (cf: SCPWRSS8)

+ to find CD data in appendix, use number marked as (***)+

* denotes particle size data in appendix.

ND - not detected

TABLE 10

-14-

SURF INLET - STATION 9

METALS (Except Cd) LAB # 880130

METALS (Cd Only) LAB # 890460

DATE SAMPLED: JUNE 27, 1987.

PARTICLE SIZE LAB # 880910

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
230	10*	0-5	.084	.80	10	40.2	85.4
230	15	0-5	.099	.57	ND(8)	37.3	81.6
230	16	0-5	.100	.59	ND(8)	37.9	80.6
230	17	0-5	.091	.64	ND(8)	36.1	82.1
230	18*	0-2	.095	.60	8	37.0	82.6
230	19	0-5	.100	.66	ND(8)	37.7	83.1
MEAN			.095	.64		37.7	82.6
STD DEV			.006	.08		1.4	1.6
230	20*	30-40	.081	1.60	ND(8)	35.5	80.7
230	23	30-40	.084	1.30	ND(8)	38.4	81.6
230	30	30-40	.085	1.30	ND(8)	36.0	80.9
MEAN			.083	1.40		36.6	81.1
STD DEV			.002	.17		1.6	.5
230	21*	60-70	.055	1.73	ND(8)	36.0	85.5
230	24	60-70	.071	1.30	ND(8)	35.7	80.4
230	31	60-70	.066	1.50	ND(8)	35.0	80.1
MEAN			.064	1.51		35.6	82.0
STD DEV			.008	.22		.5	3.0
230	22*	90-100	.059	1.70	ND(8)	37.5	83.5
230	29	90-100	.049	1.50	ND(8)	35.1	81.1
230	32	90-100	.057	1.90	ND(8)	35.6	80.8
MEAN			.055	1.70		36.1	81.8
STD DEV			.005	.20		1.3	1.5

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
10	.084	.80	10.0	40.2	85.4
11	.077	.65	ND(8)	39.8	86.2
12	.076	.65	ND(8)	41.3	86.3
13	.084	.63	ND(8)	38.1	84.7
14	.097	.60	ND(8)	37.1	82.8
MEAN	.084	.67		39.3	85.1
STD DEV	.008	.08		1.7	1.4
24	.071	1.30	ND(8)	35.7	80.4
25	.061	1.20	ND(8)	37.2	82.4
26	.059	1.30	ND(8)	35.6	82.4
27	.050	1.20	ND(8)	37.6	82.6
28	.059	1.20	ND(8)	35.6	82.6
MEAN	.060	1.24		36.3	82.1
STD DEV	.007	.05		1.0	.9

NOTE: numbers in brackets are limits of detection.

(cf:SCPSURI9)

ND - not detected

* denotes particle size data in appendix.

LAREDO INLET - STATION 10

DATE SAMPLED: JUNE 27, 1987.

METALS (Except Cd 1-9) LAB # 880130
 METALS (Cd Only 1-9) LAB # 890460
 METALS (91-100) LAB # 880525
 PARTICLE SIZE (1-9) LAB # 880910
 PARTICLE SIZE (91-100) LAB # 880909

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
322	91*	0-5	.110	.54	ND(8)	37.0	74.1
322	92	0-5	.110	.48	ND(8)	36.7	73.8
322	93	0-5	.120	.54	ND(8)	36.0	72.5
330	94	0-5	.130	.51	ND(8)	35.3	72.8
330	99*	0-2	.130	.64	ND(8)	37.3	81.7
324	100	0-5	.140	.96	ND(8)	36.2	75.2
MEAN			.123	.61		36.4	75.0
STD DEV			.012	.18		.7	3.4
322	1*	30-40	.079	1.30	ND(8)	41.9	82.3
330	4	30-40	.082	.88	ND(8)	41.6	82.3
324	7	30-40	.086	.80	ND(8)	43.7	84.6
MEAN			.082	.99		42.4	83.1
STD DEV			.004	.27		1.1	1.3
322	2*	60-70	.064	.94	ND(8)	42.2	84.9
330	5	60-70	.061	.92	ND(8)	43.0	85.3
324	8	60-70	.066	.79	ND(8)	40.5	80.7
MEAN			.064	.88		41.9	83.6
STD DEV			.003	.08		1.3	2.5
322	3*	90-100	.065	1.40	ND(8)	42.0	86.2
330	6	90-100	.060	1.00	ND(8)	41.9	85.0
324	9	90-100	.059	.94	ND(8)	43.3	85.2
MEAN			.061	1.11		42.4	85.5
STD DEV			.003	.25		.8	.6

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
94	.130	.51	ND(8)	35.3	72.8
95	.130	.49	ND(8)	35.6	73.3
96	.130	.48	ND(8)	35.5	72.7
97	.130	.52	ND(8)	35.2	72.4
98	.130	.49	ND(8)	36.2	74.0
MEAN	.130	.50		35.6	73.0
STD DEV	.000	.02		.4	.6

NOTE: numbers in brackets are limits of detection.

(cf:SCPLA110)

ND - not detected

* denotes particle size data in appendix.

TABLE 12

-16-

GREEN INLET - STATION 11

METALS

LAB # 880525

DATE SAMPLED: JUNE 26, 1987.

METALS (Cd only:35) LAB # 890460

PARTICLE SIZE

LAB # 880909

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
157	30*	0-5	.098	2.64	8	33.0	60.4
157	31	0-5	.063	2.56	ND(8)	31.5	59.0
157	32	0-5	.110	2.67	ND(8)	32.8	60.6
157	33	0-5	.073	2.46	ND(8)	32.0	67.0
157	30*	0-2	.075	3.18	ND(8)	35.4	70.0
157	35 (111)+	0-5	.100	4.50	ND(8)	38.8	82.4
MEAN			.087	3.00		33.9	66.6
STD DEV			.019	.78		2.7	8.9
157	36*	30-40	.051	1.67	ND(8)	29.0	59.9
157	43	30-40	.053	1.72	ND(8)	27.9	61.6
157	46	30-40	.088	2.20	ND(8)	34.4	67.1
MEAN			.064	1.86		30.4	62.9
STD DEV			.021	.29		3.5	3.8
157	37*	60-70	.080	4.70	ND(8)	32.9	68.7
157	44	60-70	.061	3.40	ND(8)	35.9	70.7
157	47	60-70	.199	4.00	ND(8)	31.5	68.9
MEAN			.113	4.03		33.4	69.4
STD DEV			.075	.65		2.2	1.1
157	38*	90-100	.092	1.69	ND(8)	36.4	71.8
157	45	90-100	.084	1.98	ND(8)	34.9	64.6
157	48	90-100	.051	2.38	ND(9)	33.3	65.3
MEAN			.076	2.02		34.9	67.2
STD DEV			.022	.35		1.6	4.0

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
38	.092	1.69	ND(8)	36.4	71.8
39	.087	1.66	ND(8)	36.4	71.5
40	.089	1.70	ND(8)	35.9	70.8
41	.085	1.60	ND(8)	35.2	70.3
42	.094	2.50	ND(8)	37.1	71.1
MEAN	.089	1.83		36.2	71.1
STD DEV	.004	.38		.7	.6

NOTE: numbers in brackets are limits of detection.

ND - not detected

(cf: SCPGRI11)

+ to find CD data in appendix, use number marked as (XXX)+

* denotes particle size data in appendix.

TABLE 13

-17-

KHUTZE INLET - STATION 12-----

METALS LAB # 880525
PARTICLE SIZE LAB # 880525

DATE SAMPLED: JUNE 26, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH(CM)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
150	49*	0-5	.054	.82	ND(8)	54.8	75.4
150	50	0-5	.050	.76	ND(8)	54.4	74.8
150	51	0-5	.084	.84	ND(8)	54.9	76.5
149	52*	0-2	.056	.85	ND(8)	55.1	73.9
149	57	0-5	.057	.85	ND(8)	56.2	73.9
149	58	0-5	.089	.82	ND(8)	54.1	74.4
MEAN			.065	.82		54.9	74.8
STD DEV			.017	.03		.7	1.0
150	59*	30-40	.032	.49	ND(8)	57.0	79.4
149	62	30-40	.030	.46	ND(8)	58.2	78.1
149	65	30-40	.027	.52	ND(8)	59.0	79.3
MEAN			.030	.49		58.1	78.9
STD DEV			.003	.03		1.0	.7
150	60*	60-70	.010	.28	ND(8)	39.0	56.1
149	63	60-70	.023	.35	ND(8)	49.1	66.1
149	66	60-70	.018	.30	ND(8)	38.8	63.8
MEAN			.017	.31		42.3	62.0
STD DEV			.007	.04		5.9	5.2
150	61*	90-100	.075	.66	ND(8)	55.0	79.9
149	64	90-100	.027	.53	ND(8)	53.5	74.8
149	71	90-100	.037	.54	ND(8)	54.9	78.5
MEAN			.046	.58		54.5	77.7
STD DEV			.025	.07		.8	2.6

PRECISION DATA-----

SAMPLE	Hg	Cd	Pb	Cu	Zn
52	.056	.85	ND(8)	55.1	73.9
53	.059	.83	ND(8)	56.6	75.2
54	.061	.81	ND(8)	56.6	75.8
55	.056	.77	ND(8)	58.4	76.1
56	.054	.85	ND(8)	57.5	75.8
MEAN	.057	.82		56.8	75.4
STD DEV	.003	.03		1.2	.9

NOTE: numbers in brackets are limits of detection.

(cf:SCPHH112)

ND - not detected

* denotes particle size data in appendix.

TABLE 14

-18-

MUSSEL INLET - STATION 13

DATE SAMPLED: JUNE 26, 1987.

 METALS LAB #880525
 PARTICLE SIZE LAB #880909

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
322	7*	0-5	.110	.34	ND(8)	45.8	87.8
322	8	0-5	.100	.10	ND(8)	43.4	83.7
322	9	0-5	.170	.10	ND(8)	43.3	83.7
330	15*	0-2	.120	.32	ND(8)	45.3	82.2
330	10	0-5	.100	.36	ND(8)	43.0	81.6
324	16	0-5	.130	.36	ND(8)	44.8	82.0
MEAN			.122	.26		44.3	83.5
STD DEV			.026	.13		1.2	2.3
322	17*	30-40	.074	.35	ND(8)	42.7	79.1
330	20	30-40	.098	.38	ND(8)	43.5	82.9
324	23	30-40	.100	.35	ND(8)	43.2	82.5
MEAN			.091	.36		43.1	81.5
STD DEV			.014	.02		.4	2.1
322	18*	60-70	.120	.36	ND(8)	44.3	80.8
330	21	60-70	.039	.39	ND(8)	45.4	83.3
324	24	60-70	.072	.40	ND(8)	42.7	80.0
MEAN			.077	.38		44.1	81.4
STD DEV			.041	.02		1.4	1.7
322	19*	90-100	.110	.44	ND(8)	42.0	78.3
330	22	90-100	.041	.44	ND(8)	41.2	78.1
324	29	90-100	.075	.43	ND(8)	42.4	74.5
MEAN			.075	.44		41.9	77.0
STD DEV			.035	.01		.6	2.1

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
10	.100	.36	ND(8)	43.0	81.6
11	.110	.37	ND(8)	42.8	83.3
12	.110	.34	ND(8)	43.1	82.7
13	.110	.33	ND(8)	45.2	82.9
14	.098	.37	ND(8)	42.9	81.2
MEAN	.106	.35		43.4	82.3
STD DEV	.006	.02		1.0	.9

NOTE: numbers in brackets are limits of detection.

(cf:SCPMUI13)

ND - not detected

* denotes particle size data in appendix.

TABLE 15

-19-

METALS (88-100)

LAB # 880129

KYNOCH INLET - STATION 14

METALS (1-6)

LAB # 880525

DATE SAMPLED: JUNE 26, 1987.

PARTICLE SIZE (88-100) LAB# 880908

PARTICLE SIZE (1-6) LAB # 880909

			UG/G DRY WEIGHT				
DEPTH	SAMPLE	SEDIMENT	Hg	Cd	Pb	Cu	Zn
(m)		DEPTH (cm)					
419	88*	0-5	.097	1.60	ND(8)	52.5	116.0
419	89	0-5	.084	1.73	ND(8)	54.8	113.0
419	90	0-5	.086	1.69	ND(8)	60.5	117.0
423	91	0-5	.093	1.77	ND(8)	56.1	122.0
423	92*	0-2	.100	1.60	ND(8)	54.0	117.0
423	93	0-5	.100	1.85	ND(8)	60.6	124.0
MEAN			.093	1.71		56.4	118.2
STD DEV			.007	.10		3.4	4.1
419	94*	30-40	.072	1.75	ND(8)	60.9	123.0
423	1	30-40	.100	1.70	ND(8)	55.5	92.0
423	4	30-40	.214	1.78	ND(8)	54.3	91.6
MEAN			.129	1.74		56.9	102.2
STD DEV			.075	.04		3.5	18.0
419	99*	60-70	.061	2.09	ND(8)	61.6	127.0
423	2	60-70	.049	2.01	ND(8)	51.4	88.5
423	5	60-70	.075	1.90	ND(8)	55.7	91.4
MEAN			.062	2.00		56.2	102.3
STD DEV			.013	.10		5.1	21.4
419	100*	90-100	.059	1.92	ND(8)	51.9	117.0
423	3	90-100	.077	2.03	ND(8)	50.0	86.2
423	6	90-100	.120	2.03	ND(8)	50.6	113.0
MEAN			.085	1.99		50.8	105.4
STD DEV			.031	.06		1.0	16.7

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
94	.072	1.75	ND(8)	60.9	123.0
95	.070	1.86	ND(8)	59.4	124.0
96	.066	1.95	ND(8)	61.1	127.0
97	.068	1.83	ND(8)	55.2	125.0
98	.071	1.75	ND(8)	63.6	127.0
MEAN	.069	1.83		60.0	125.2
STD DEV	.002	.08		3.1	1.8

NOTE: numbers in brackets are limits of detection.

(cf: SCPKYI14)

ND - not detected

* denotes particle size data in appendix.

TABLE 16

-20-

ROSCOE INLET - STATION 15METALS LAB # 880129
PARTICLE SIZE LAB # 880908

DATE SAMPLED: JUNE 26, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
149	65*	0-5	.160	.10	ND(8)	47.8	98.4
149	66	0-5	.150	.28	ND(8)	46.5	88.9
149	71	0-5	.150	.40	ND(8)	45.9	92.1
148	72*	0-2	.130	.43	ND(8)	46.6	83.7
148	73	0-5	.160	.39	ND(8)	47.0	92.4
144	74	0-5	.120	.47	20	43.1	83.5
MEAN			.145	.35		46.2	89.8
STD DEV			.016	.14		1.6	5.7
149	75*	30-40	.071	.51	ND(8)	44.3	81.1
148	78	30-40	.067	.57	ND(8)	43.9	79.5
144	85	30-40	.062	.10	10	44.8	84.1
MEAN			.067	.39		44.3	81.6
STD DEV			.005	.26		.5	2.3
149	76*	60-70	.057	.65	ND(8)	41.2	77.6
148	79	60-70	.057	.58	ND(8)	43.2	78.4
144	86	60-70	.058	.82	ND(8)	43.9	85.8
MEAN			.057	.68		42.8	80.6
STD DEV			.001	.12		1.4	4.5
149	77*	90-100	.055	.21	ND(8)	39.0	76.1
148	80	90-100	.052	.61	ND(8)	38.6	74.9
144	87	90-100	.053	.53	ND(8)	39.0	78.2
MEAN			.053	.45		38.9	76.4
STD DEV			.002	.21		.2	1.7

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
66	.150	.28	ND(8)	46.5	88.9
67	.150	.48	ND(8)	44.5	90.8
68	.167	.40	96	44.4	91.6
69	.150	.44	10	45.0	90.4
70	.150	.52	10	43.0	91.0
MEAN	.153	.42		44.7	90.5
STD DEV	.008	.09		1.3	1.0
80	.052	.61	ND(8)	38.6	74.9
81	.051	.63	ND(8)	37.5	74.2
82	.054	.58	ND(8)	37.4	76.5
83	.068	.61	29	39.0	75.7
84	.056	.61	ND(8)	36.9	73.4
MEAN	.056	.61		37.9	74.9
STD DEV	.007	.02		.9	1.2

NOTE: numbers in brackets are limits of detection.

ND - not detected

* denotes particle size data in appendix

(cf:SCPROI15)

TABLE 17

CASCADE INLET - STATION 16

METALS LAB # 880129

PARTICLE SIZE LAB#880908

DATE SAMPLED: JUNE 25, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
299	46*	0-5	.097	.41	ND(8)	53.2	105.0
299	47	0-5	.091	.37	ND(8)	51.9	101.0
299	48	0-5	.086	.45	ND(8)	59.1	108.0
301	49	0-5	.095	.33	10	51.6	107.0
301	50*	0-2	.099	.49	ND(8)	57.2	108.0
302	51	0-5	.089	.35	ND(8)	54.8	114.0
MEAN			.093	.40		54.6	107.2
STD DEV			.005	.06		3.0	4.3
299	52*	30-40	.041	.38	ND(8)	50.3	105.0
301	59	30-40	.034	.36	ND(8)	56.8	109.0
302	62	30-40	.038	.35	ND(8)	52.3	105.0
MEAN			.038	.36		53.1	106.3
STD DEV			.004	.02		3.3	2.3
299	57*	60-70	.030	.36	ND(8)	47.3	99.4
301	60	60-70	.039	.38	ND(8)	58.3	109.0
302	63	60-70	.043	.59	ND(8)	54.1	109.0
MEAN			.037	.44		53.2	105.8
STD DEV			.007	.13		5.6	5.5
299	58*	90-100	.028	.39	ND(8)	54.8	109.0
301	61	90-100	.031	.36	ND(8)	54.5	101.0
302	64	90-100	.040	.45	ND(8)	56.6	106.0
MEAN			.033	.40		55.3	105.3
STD DEV			.006	.05		1.1	4.0

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
52	.041	.38	ND(8)	50.3	105.0
53	.042	.35	ND(8)	48.4	99.3
54	.043	.40	ND(8)	55.2	104.0
55	.041	.33	ND(8)	58.2	106.0
56	.027	.33	ND(8)	49.7	104.0
MEAN	.039	.36		52.4	103.7
STD DEV	.007	.03		4.2	2.6

NOTE: numbers in brackets are limits of detection.

(cf:SCPCA116)

ND - not detected

* denotes particle size data in appendix.

TABLE 18

-22-

DEAN CHANNEL - STATION 17

METALS LAB # 880129
PARTICLE SIZE LAB # 880908

DATE SAMPLED: JUNE 25, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
483	23*	0-5	.082	.10	9	70.2	77.7
483	24	0-5	.078	.19	ND(8)	72.1	75.5
483	29	0-5	.075	.20	ND(8)	72.8	79.8
479	30	0-5	.071	.19	ND(8)	76.0	75.9
479	31*	0-2	.100	.29	ND(8)	93.9	89.7
479	32	0-5	.039	.20	ND(8)	73.7	77.3
MEAN			.074	.20		74.8	79.3
STD DEV			.020	.06		4.9	5.3
483	33*	30-40	.031	.20	ND(8)	71.8	77.2
479	36	30-40	.026	.18	ND(8)	66.2	72.2
479	43	30-40	.030	.10	ND(8)	66.8	68.4
MEAN			.029	.16		68.3	72.6
STD DEV			.003	.05		3.1	4.4
483	34*	60-70	.032	.20	ND(8)	70.3	78.8
479	37	60-70	.031	.25	ND(8)	69.5	79.5
479	44	60-70	.031	.20	ND(8)	70.5	84.8
MEAN			.031	.22		70.1	81.0
STD DEV			.001	.03		.5	3.3
483	35*	90-100	.032	.37	ND(8)	71.8	90.3
479	38	90-100	.029	.20	ND(8)	72.4	79.7
479	45	90-100	.130	.18	ND(8)	68.6	73.3
MEAN			.064	.25		70.9	81.1
STD DEV			.057	.10		2.0	8.6

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
24	.078	.19	ND(8)	72.1	75.5
25	.082	.20	ND(8)	69.2	78.4
26	.086	.19	ND(8)	72.8	82.1
27	.084	.26	ND(8)	73.2	82.1
28	.076	.18	ND(8)	76.2	82.7
MEAN	.081	.20		72.7	80.2
STD DEV	.004	.03		2.5	3.1
38	.029	.20	ND(8)	72.4	79.7
39	.023	.10	ND(8)	71.2	78.6
40	.026	.10	ND(8)	70.3	77.5
41	.027	.20	10	74.9	79.5
42	.027	.10	ND(8)	69.5	76.9
MEAN	.026	.14		71.7	78.4
STD DEV	.002	.05		2.1	1.2

NOTE: numbers in brackets are limits of detection.

ND - not detected

* denotes particle size data in appendix.

(cf: SCPDEC17)

NORTH BENTINCK ARM - STATION 18

METALS LAB # 880129

PARTICLE SIZE LAB # 880129

DATE SAMPLED: JUNE 25, 1987.

DEPTH (M)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
405	4*	0-5	.061	.17	ND(8)	73.9	112.0
405	5	0-5	.052	.10	ND(8)	74.3	107.0
405	6	0-5	.049	.10	ND(8)	76.2	109.0
405	7*	0-5	.058	.10	ND(8)	83.7	111.0
405	8	0-2	.075	.18	ND(8)	80.1	112.0
406	9	0-5	.059	.10	ND(8)	78.3	111.0
MEAN			.059	.13		77.8	110.3
STD DEV			.009	.04		3.8	2.0
405	10*	30-40	.051	.10	ND(8)	72.4	105.0
405	17	30-40	.051	.10	ND(8)	75.0	105.0
406	20	30-40	.053	.10	9.0	79.5	106.0
MEAN			.052	.10		75.6	105.3
STD DEV			.001	0		3.6	.6
405	15*	60-70	.052	.10	19.0	75.0	100.0
405	18	60-70	.049	.10	ND(8)	78.9	102.0
406	21	60-70	.046	.10	ND(8)	76.1	99.6
MEAN			.049	.10		76.7	100.5
STD DEV			.003	0		2.0	1.3
405	16*	90-100	.045	.09	ND(8)	71.4	98.9
405	19	90-100	.050	.10	10.0	71.7	101.0
406	22	90-100	.074	.19	9.0	71.3	101.0
MEAN			.056	.13		71.5	100.3
STD DEV			.016	.06		.2	1.2

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
10	.051	.10	ND(8)	72.4	105.0
11	.043	.10	ND(8)	70.8	103.0
12	.046	.10	ND(8)	75.7	105.0
13	.049	.10	ND(8)	76.2	106.0
14	.056	.10	ND(8)	77.1	109.0
MEAN	.049	.10		74.4	105.4
STD DEV	.005	0		2.7	1.8

NOTE: numbers in brackets are limits of detection.

(cf: SCPNBA18)

ND - not detected

* denotes particle size data in appendix.

TABLE 20

-24-

SOUTH BENTINCK ARM - STATION 19

DATE SAMPLED: JUNE 25, 1987.

METALS LAB # 880524: 1-3
 PARTICLE SIZE LAB # 880524: 1-3
 METALS LAB # 880129: 85-100
 PARTICLE SIZE LAB # 880129: 85-100

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
298	85*	0-5	.044	.31	ND(8)	101.0	95.6
298	86	0-5	.038	.25	ND(8)	94.5	96.3
298	87	0-5	.041	.24	ND(8)	93.7	95.6
299	88	0-5	.043	.22	ND(8)	95.9	95.5
299	89*	0-2	.110	.21	ND(8)	92.4	95.6
299	90	0-5	.059	.22	ND(8)	94.3	96.5
MEAN			.056	.24		95.3	95.9
STD DEV			.028	.04		3.0	.4
298	91*	30-40	.027	.20	ND(8)	84.9	86.8
299	94	30-40	.031	.18	ND(8)	86.8	89.2
299	1	30-40	.037	.18	ND(8)	93.0	108.0
MEAN			.032	.19		88.2	94.7
STD DEV			.005	.01		4.2	11.6
298	92*	60-70	.024	.20	ND(8)	95.6	97.0
299	99	60-70	.037	.22	ND(8)	97.6	99.9
299	2	60-70	.042	.19	ND(8)	96.0	122.0
MEAN			.034	.20		96.4	106.3
STD DEV			.009	.02		1.1	13.7
298	93*	90-100	.025	.20	ND(8)	90.3	86.1
299	100	90-100	.038	.18	ND(8)	92.0	88.7
299	3	90-100	.044	.16	ND(8)	93.2	117.0
MEAN			.036	.18		91.8	97.3
STD DEV			.010	.02		1.5	17.1

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
94	.031	.18	ND(8)	86.8	89.2
95	.026	.19	ND(8)	85.4	88.9
96	.024	.20	ND(8)	87.5	89.2
97	.023	.20	ND(8)	88.3	89.2
98	.026	.21	ND(8)	88.5	89.2
MEAN	.026	.20		87.3	89.1
STD DEV	.003	.01		1.3	.1

NOTE: numbers in brackets are detection limits.

(cf: SCPSBA19)

ND - not detected

* denotes particle size data in appendix.

TABLE 21

-25-

KWATNA INLET - STATION 20

DATE SAMPLED: JUNE 24, 1987.

METALS (62-71)

METALS (Except Cd: 72-80)

METALS (Cd only 72-80)

PARTICLE SIZE

LAB #880524

LAB #880524

LAB #890460

LAB #880907

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	UG/G DRY WEIGHT				
			Hg	Cd	Pb	Cu	Zn
590	62*	0-5	.130	ND(.02)	ND(8)	52.1	116.0
590	63	0-5	.110	ND(.02)	ND(8)	51.6	114.0
590	64	0-5	.140	ND(.02)	ND(8)	52.8	113.0
579	65*	0-2	.162	ND(.02)	9	51.1	116.0
579	66	0-5	.110	ND(.02)	8	50.0	113.0
608	71	0-5	.097	ND(.02)	10	50.6	116.0
MEAN			.125			51.4	114.7
STD DEV			.024			1.0	1.5
590	72 (143)**	30-40	.130	.60	ND(8)	47.1	99.6
579	75 (146)+	30-40	.074	.74	ND(8)	46.2	99.3
608	78 (149)+	30-40	.082	.73	ND(8)	48.8	103.0
MEAN			.095	.69		47.4	100.6
STD DEV			.030	.08		1.3	2.1
590	73 (144)**	60-70	.089	.74	ND(8)	49.8	104.0
579	76 (147)+	60-70	.081	.71	ND(8)	53.8	107.0
608	79 (150)+	60-70	.085	.73	ND(8)	50.2	105.0
MEAN			.085	.73		51.3	105.3
STD DEV			.004	.02		2.2	1.5
590	74 (145)**	90-100	.072	.82	ND(8)	46.6	101.0
579	77 (148)+	90-100	.058	.89	ND(8)	49.6	103.0
608	80 (151)+	90-100	.072	.68	ND(8)	52.5	106.0
MEAN			.067	.80		49.6	103.3
STD DEV			.008	.11		3.0	2.5

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
66	.110	ND(.02)	8	50.0	113.0
67	.130	ND(.02)	ND(8)	50.7	115.0
68	.110	ND(.02)	23	51.8	115.0
69	.130	ND(.02)	ND(8)	49.2	111.0
70	.120	ND(.02)	9	51.9	116.0
MEAN	.120			50.7	114.0
STD DEV	.010			1.2	2.0
80	.072	.68	ND(8)	52.5	106.0
81	.078	.69	ND(8)	48.1	103.0
82	.077	.76	ND(8)	50.5	104.0
83	.075	.72	ND(8)	50.9	104.0
84	.095	.73	ND(8)	51.4	107.0
MEAN	.079	.72		50.7	104.8
STD DEV	.009	.03		1.63	1.6

NOTE: numbers in brackets are limits of detection

+ to find CD data in appendix, use number in brackets.

* denotes particle size data in appendix.

ND - not detected

(cf: SCPKW120)

TABLE 22

-26-

METALS (43-61 Except 52 & 54) LAB#880524
 METALS (43-61 EXCEPT 52 & 54) LAB#388052
 METALS (52 & 57 except Cd) LAB#880524
 METALS (Cd only: 52 & 57) LAB#890460
 PARTICLE SIZE LAB#880907

RIVERS INLET - STATION 21

DATE SAMPLED: JUNE 24, 1987.

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	Hg	UG/G DRY WEIGHT			
				Cd	Pb	Cu	Zn
239	1*	0-5	.057	.20	ND(8)	58.6	98.7
239	2	0-5	.069	.20	ND(8)	59.6	97.4
239	3	0-5	.083	.20	ND(8)	60.8	99.3
238	4	0-5	.062	.23	ND(8)	56.4	92.8
238	5*	0-2	.058	.19	ND(8)	61.5	99.8
240	6	0-5	.061	.21	ND(8)	59.0	95.8
MEAN			.065	.21		59.3	97.3
STD DEV			.010	.01		1.8	2.6
239	7*	30-40	.028	.23	ND(8)	67.9	115.0
238	10	30-40	.048	.22	ND(8)	61.6	107.0
240	17	30-40	.031	.53	ND(8)	67.3	117.0
MEAN			.036	.33		65.6	113.0
STD DEV			.011	.18		3.5	5.3
239	8*	60-70	.100	.20	ND(8)	71.5	118.0
238	15	60-70	.033	.25	ND(8)	67.7	116.0
240	18	60-70	.029	.21	ND(8)	72.3	123.0
MEAN			.054	.22		70.5	119.0
STD DEV			.040	.03		2.5	3.6
239	9*	90-100	.029	.20	ND(8)	68.1	120.0
238	16	90-100	.026	.22	ND(8)	70.1	119.0
240	19	90-100	.052	.28	ND(8)	76.2	120.0
MEAN			.036	.23		71.5	119.7
STD DEV			.014	.04		4.2	.6

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
10	.048	.22	ND(8)	61.6	107.0
11	.050	.21	ND(8)	64.8	109.0
12	.057	.26	ND(8)	61.6	107.0
13	.049	.24	ND(8)	62.3	106.0
14	.054	.21	ND(8)	63.5	110.0
MEAN	.052	.23		62.8	107.8
STD DEV	.004	.02		1.4	1.6

NOTE: numbers in brackets are limits of detection.

(cf:SCPRIS21)

ND - not detected

* denotes particle size data in appendix.

+ to find Cd data in appendix, use the number marked as (XXX)+

TABLE 23

-27-

MOSES INLET - STATION 22

DATE SAMPLED: JUNE 24, 1987.

METALS (20-29)

LAB # 880524

METALS (Except Cd:30-38)

LAB # 880524

METALS (Cd Only: 30-38)

LAB # 890460

PARTICLE SIZE

LAB # 880907

UG/G DRY WEIGHT

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	Hg	Cd	Pb	Cu	Zn
242	20*	0-5	.150	ND(.02)	ND(8)	57.2	101.0
242	21	0-5	.140	ND(.02)	ND(8)	54.1	95.8
242	22	0-5	.130	ND(.02)	ND(8)	56.1	97.7
242	23	0-5	.140	ND(.02)	ND(8)	57.4	101.0
242	24*	0-2	.150	.10	ND(8)	57.3	100.0
244	29	0-5	.130	ND(.02)	ND(8)	53.7	96.0
MEAN			.140			56.0	98.6
STD DEV			.009			1.7	2.4

242	30*(118)+	30-40	.120	.55	ND(8)	65.5	111.0
242	33 (121)+	30-40	.160	.49	ND(8)	62.8	111.0
244	36 (124)+	30-40	.079	.30	ND(8)	72.7	148.0
MEAN			.120	.45		67.0	123.3
STD DEV			.041	.13		5.1	21.4

242	31*(119)+	60-70	.065	.39	ND(8)	63.4	98.9
242	34 (122)+	60-70	.089	.38	ND(8)	63.0	98.8
244	37 (125)+	60-70	.083	.27	ND(8)	46.4	74.8
MEAN			.079	.35		57.6	90.8
STD DEV			.012	.07		9.7	13.9

242	32*(120)+	90-100	.071	.34	ND(8)	58.9	94.8
242	35 (123)+	90-100	.069	.32	ND(8)	55.3	90.8
244	38 (126)+	90-100	.081	.35	ND(8)	58.0	94.7
MEAN			.074	.34		57.4	93.4
STD DEV			.006	.02		1.87	2.28

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
24	.150	.10	ND(8)	57.3	100.0
25	.150	ND(.02)	ND(8)	57.5	101.0
26	.140	ND(.02)	ND(8)	58.3	100.0
27	.150	ND(.02)	10	58.9	110.0
28	.160	.27	ND(8)	57.2	102.0
MEAN		.150		57.8	102.6
STD DEV		.007		.7	4.2

38 (126)+	.081	.35	ND(8)	58.0	94.7
39 (127)+	.084	.37	ND(8)	58.5	94.1
40 (128)+	.080	.35	ND(8)	57.6	92.2
41 (129)+	.083	.36	ND(8)	58.4	94.7
42 (130)+	.081	.36	ND(8)	58.8	122.0
MEAN		.082	.36	66.3	99.5
STD DEV		.002	.01	18.2	12.6

NOTE: numbers in brackets are limits of detection

(cf: SCPM0122)

+ to find Cd data in appendix, use number marked as (XXX)+

* denotes particle size data in appendix

ND - not detected

TABLE 24

-28-

RIVERS INLET - STATION 23

DATE SAMPLED: JUNE 24, 1987.

METALS (43-61 Except 52 & 57) LAB# 880524
 METALS (52 & 57 Except Cd) LAB# 880524
 METALS (Cd only: 52 & 57) LAB# 890460
 PARTICLE SIZE LAB #880907

UG/G DRY WEIGHT

DEPTH (m)	SAMPLE	SEDIMENT DEPTH (cm)	Hg	Cd	Pb	Cu	Zn
333	43*	0-5	.120	ND(.02)	ND(8)	45.2	97.7
333	44	0-5	.140	ND(.02)	ND(8)	45.4	98.0
333	45	0-5	.130	.38	ND(8)	43.3	95.7
338	46	0-5	.150	.40	10	41.4	97.8
338	47*	0-2	.168	.38	10	38.1	93.1
338	48	0-5	.120	.47	10	39.2	95.0
MEAN			.138	.41	10	42.1	96.2
STD DEV			.019	.04	0	3.1	2.0
333	49*	30-40	.120	.53	ND(8)	40.3	89.9
338	52 (139)+	30-40	.096	.64	ND(8)	38.7	87.1
338	59	30-40	.175	.63	ND(8)	37.0	87.3
MEAN			.130	.60		38.7	88.1
STD DEV			.041	.06		1.7	1.6
333	50*	60-70	.074	.59	ND(8)	38.0	87.9
338	57 (139)+	60-70	.099	.61	ND(8)	35.6	85.1
338	60	60-70	.064	.56	ND(8)	38.8	89.3
MEAN			.079	.59		37.5	87.4
STD DEV			.018	.03		1.7	2.1
333	51*	90-100	.098	.70	ND(8)	37.7	88.1
338	58	90-100	.082	.54	ND(8)	38.5	91.0
338	61	90-100	.130	.49	ND(8)	40.0	93.8
MEAN			.103	.58		38.7	91.0
STD DEV			.024	.11		1.2	2.9

PRECISION DATA

SAMPLE	Hg	Cd	Pb	Cu	Zn
52	.096	.04	ND(8)	38.7	87.1
53	.068	.04	ND(8)	38.0	89.1
54	.080	.04	ND(8)	36.5	85.2
55	.073	.04	ND(8)	37.0	88.7
56	.075	.04	ND(8)	37.3	86.4
MEAN	.078	.04		37.5	87.3
STD DEV	.011	0		.9	1.6

NOTE: numbers in brackets are limits of detection.

(cf:SCPRIS23)

to find CD data in appendix, use the number marked as (XXX)+

denotes particle size data in appendix.

ND - not detected

APPENDIX I

ACCURACY DATA

ACCURACY DATA

LAB #880129

	Hg	Cd	Pb	Cu	Zn
MESS-1					
CERTIFIED:	0.171	0.59	34.0	25.1	191
	+/-	+/-	+/-	+/-	+/-
	0.014	0.10	6.1	3.8	17
FOUND:	.195	.76	17	25.8	190.0
	.207	.71	43	26.2	186.0
	.197	.69	28	24.0	189.0
	.198	.68	22	25.4	193.0
	.195	.67	30	26.5	209.0
MEAN	.198	.70	28	25.6	193.4
STD DEV	.005	.04	10	1.0	9.1

ECSS-1

CERTIFIED:	0.129	0.25	22.7	18.5	119
	+/-	+/-	+/-	+/-	+/-
	.012	.04	3.4	2.7	12
FOUND:	.140	.27	44	18.4	114.0
	.140	.25	ND(8)	16.0	104.0
	.140	.25	10	17.0	106.0
	.150	.26	10	16.7	105.0
	.150	.25	ND(8)	17.1	105.0
MEAN	.144	.26		17.0	106.8
STD DEV	.005	.01		.9	4.1

(cf: AC880129)

NOTE: numbers in brackets are limits of detection.
ND - not detected



ACCURACY DATA

LAB #880130

	Hg	Cd	Pb	Cu	Zn
MESS-1					
CERTIFIED:	0.171	0.59	34.0	25.1	191
	+/-	+/-	+/-	+/-	+/-
	0.014	0.10	6.1	3.8	17
FOUND:	.199	.71	10	27.8	180.0
	.202	.69	20	28.9	183.0
	.205	.67	10	24.5	178.0
	.220	.72	16	29.9	191.0
	.202	.69	17	30.7	175.0
MEAN	.206	.68	15	28.4	181.4
STD DEV	.008	.04	4	2.4	6.1

ECSS-1					
CERTIFIED:	0.129	0.25	22.7	18.5	119
	+/-	+/-	+/-	+/-	+/-
	.012	.04	3.4	2.7	12
FOUND:	.150	.24	ND(8)	20.7	107.0
	.150	.22	ND(8)	20.2	106.0
	.150	.21	ND(8)	20.6	108.0
	.150	.21	ND(8)	20.8	107.0
	.180	.20	ND(8)	19.9	108.0
MEAN	.156	.22		20.4	107.2
STD DEV	.013	.02		.4	.5

(cf:AC880130)

NOTE: numbers in brackets are limits of detection.
ND - not detected



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ACCURACY DATA

LAB #880524

	Hg	Cd	Pb	Cu	Zn
MESS-1					
CERTIFIED:	0.171	0.59	34.0	25.1	191
	+/-	+/-	+/-	+/-	+/-
	0.014	0.10	6.1	3.8	17
FOUND:	.199	.66	21	26.4	189.0
	.196	.62	23	26.4	189.0
	.210	.63	25	27.2	180.0
	.259	.62	29	27.2	175.0
	.213	.64	24	27	180.0
MEAN	.215	.63	25	26.8	182.6
STD DEV	.025	.02	3	.4	6.2

BOSS-1					
CERTIFIED:	0.129	0.25	22.7	18.5	119
	+/-	+/-	+/-	+/-	+/-
	.012	.04	3.4	2.7	12
FOUND:	.150	.27	20	16.7	98.8
	.140	.24	10	16.9	101.0
	.050	.24	17	17.7	101.0
	.178	.26	19	18.1	103.0
	.183	.25	20	17.1	103.0
MEAN	.140	.25	17	17.3	101.4
STD DEV	.054	.01	4	.6	1.7

(cf: A0880524)

NOTE: numbers in brackets are limits of detection.
ND - not detected



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ACCURACY DATA

LAB #880525

	Hg	Cd	Pb	Cu	Zn
MESS-1					
CERTIFIED:	0.171	0.59	34.0	25.1	191
	+/-	+/-	+/-	+/-	+/-
	0.014	0.10	6.1	3.8	17
FOUND:	.161	.62	23	24.1	160.0
	.188	.65	19	23.2	159.0
	.184	.62	17	23.0	152.0
	.180	.62	22	23.9	157.0
	.180	.57	18	21.6	151.0
MEAN	.183	.62	20	23.2	155.8
STD DEV	.003	.03	3	1.0	4.1

BOSS-1					
CERTIFIED:	0.129	0.25	22.7	18.5	119
	+/-	+/-	+/-	+/-	+/-
	.012	.04	3.4	2.7	12
FOUND:	.140	.19	10	15.6	91.2
	.140	.20	10	16.0	89.6
	.140	.26	24	17.9	90.7
	.140	.23	10	16.6	90.6
	.140	.23	10	15.9	91.6
MEAN	.140	.22	15	16.4	90.7
STD DEV	.000	.03	6	.9	.8

(cf: AC880525)

NOTE: numbers in brackets are limits of detection.

ND - not detected



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ACCURACY DATA

LAB #880904

	Hg	Cd	Pb	Cu	Zn
MESS-1					
CERTIFIED:	0.171	0.59	34.0	25.1	191
	+/-	+/-	+/-	+/-	+/-
	0.014	0.10	6.1	3.8	17
FOUND:					
	.199	.57	28	26.2	191.0
	.192	.56	29	26.7	185.0
	.195	.55	25	25.9	184.0
	.169	.64	33	25.1	191.0
	.183	.71	33	25.0	181.0
MEAN	.188	.61	30	25.8	186.4
STD DEV	.012	.07	3	.7	4.4

BCSS-1					
CERTIFIED:	0.129	0.25	22.7	18.5	119
	+/-	+/-	+/-	+/-	+/-
	.012	.04	3.4	2.7	12
FOUND:					
	.230	.18	20	17.4	109.0
	.150	.17	19	18.3	111.0
	.140	.21	17	17.7	112.0
	.150	.29	26	17.6	109.0
	.160	.24	25	17.2	106.0
MEAN	.166	.22	21	17.6	109.4
STD DEV	.036	.05	4	.4	2.3

(cf:AC880904)

NOTE: numbers in brackets are limits of detection.
ND - not detected



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ACCURACY DATA

LAB #880906

	Hg	Cd	Pb	Cu	Zn
MESS-1					
CERTIFIED:	0.171	0.59	34.0	25.1	191
	+/-	+/-	+/-	+/-	+/-
	0.014	0.10	6.1	3.8	17
FOUND:	.226	.57	33	27.5	191.0
	.193	.61	29	26.4	193.0
	.186	.59	23	26.8	197.0
	.189	.63	33	25.3	180.0
	.206	.70	30	25.6	175.0
MEAN	.200	.62	30	26.3	187.2
STD DEV	.016	.05	4	.9	9.3

BCES-1					
CERTIFIED:	0.129	0.25	22.7	18.5	119
	+/-	+/-	+/-	+/-	+/-
	.012	.04	3.4	2.7	12
FOUND:	.150	.20	20	17.5	112.0
	.150	.27	17	18.3	111.0
	.150	.21	18	17.0	109.0
	.160	.24	29	17.7	111.0
	.160	.23	24	17.7	113.0
MEAN	.154	.23	22	17.6	111.2
STD DEV	.005	.03	5	.5	1.5

(cf:AC880906)

NOTE: numbers in brackets are limits of detection.

ND - not detected



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ACCURACY DATA

LAB # 890460

	Hg	Cd	Pb	Cu	Zn
MESS-1					
CERTIFIED:	0.171	.59	34.0	25.1	191
	+/-	+/-	+/-	+/-	+/-
	0.014	0.10	6.1	3.8	17
FOUND:	*	.55	*	*	*
		.53			
		.62			
		.56			
		.59			
MEAN		.57			
STD DEV		.04			

BCSS-1					
CERTIFIED:	0.129	0.25	22.7	18.5	119
	+/-	+/-	+/-	+/-	+/-
	.012	.04	3.4	2.7	12
FOUND:	*	.20	*	*	*
		.19			
		.19			
		.20			
		.19			
MEAN		.19			
STD DEV		.01			

* NOTE: THIS ANALYSIS IS A RE-RUN, AND CONSISTS OF Cd DATA ONLY.

(cf: ACB9046



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